



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,452	03/29/2004	David E. Slobodin	107773-132655	3144

45505 7590 03/22/2006

SCHWABE, WILLIAMSON & WYATT, P.C.  
PACWEST CENTER, SUITE 1900  
1211 SW FIFTH AVENUE  
PORTLAND, OR 97204

EXAMINER
----------

BLACKMAN, ROCHELLE ANN J

ART UNIT	PAPER NUMBER
----------	--------------

2851

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/812,452

Applicant(s)

SLOBODIN ET AL.

Examiner

Rochelle Blackman

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 6, 2006 has been entered.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 4, 6-14, 15, 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Yokoyama et al. (U.S. Patent No. 2001/0013924).

Regarding claim 1, Yokoyama discloses a projection system (see FIGS. 1-33) comprising: a solid state light source (for example, see 13R, 13G, 13B of FIG. 1, 100R, 100G, 100B of FIG. 28 and 100 of FIG. 29); a power supply (for example, see 113 of FIG. 29) coupled to the solid state light source to provide power to the solid state light source; a sensor (for example, see 110 of FIG. 29) either coupled to or integrated with the solid state light source to monitor a region of the solid state light source for a thermal condition, and output a signal indicative of the thermal condition of the monitored region; an active cooling arrangement (for example see 34R, 34G, 34B of FIG. 8 and 107, 110 of FIG. 29) thermally coupled to the solid state light source adapted to selectively provide more or less cooling to the solid state light source; and a controller (for example, see *printed circuit board* in paragraph [0128] and 111 of FIG. 29) coupled to the sensor and the active cooling arrangement to conditionally initiate one or more thermal management actions using the active cooling arrangement based at least in part on the thermal condition of the region as indicated by the signal.

Regarding claim 2, Yokoyama discloses wherein the solid state light source comprises a selected one of a light emitting diode and a laser diode (see *organic EL (electroluminescence) elements* in paragraph [0105] and *organic EL planar light source* in paragraphs [0170] – “solid state light source” 13R, 13G, 13B; 100R, 100G, 100B; and/or 100 are *organic EL (electroluminescence) elements/ planar light source* and therefore considered to be a “light emitting diode”).

Regarding claim 3, Yokoyama discloses wherein the controller is designed to control operations of active cooling arrangement to impart more cooling on the solid

Art Unit: 2851

state light source when the thermal condition of the region exceeds an upper end operational threshold and/or to impart less cooling to the on the solid state light source when the thermal condition of the region is under a lower end operational threshold (see paragraph [0194]).

Regarding claim 4, Yokoyama discloses wherein the active cooling arrangement comprises a fan (see 108 of FIGS. 28 and 29), and the controller controls as speed of the fan, varying an amount of air flow the fan drives pass the solid state light source (the amount of air flow of “fan” 108 is considered to be varied when “controller” 111 turns the fan on and off).

Regarding claim 6, Yokoyama discloses wherein the active cooling arrangement comprises a thermoelectric cooler (see 107 of FIG. 29), and the controller controls an operation level of the thermoelectric cooler, varying an amount of heat being removed from the solid state light source (see paragraphs [0190], [0193], and [0197]).

Regarding claims 7 and 8, Yokoyama discloses wherein the projection system further comprises drive circuitry (for example, see 112, 113 of FIG. 29) coupled to the solid state light source to drive the solid state light source, and the controller is further coupled to the drive circuitry to influence its operation (see connection between 111 and 112, 113 in FIG. 29), indicating to the drive circuitry to vary an amount of drive voltage or current the drive circuitry applies to the solid state light source, based at least in part on the thermal condition indicated by the signal (see paragraph [0194]).

Regarding claim 9, Yokoyama discloses wherein the projection system further comprises a processor (for example, see *printed circuit board* in paragraph [0128]) coupled to the light source to control the light source to project an image; and an input interface (for example, see TN, 35L, 37 in FIG. 10 and paragraph [0128]) coupled to the processor to facilitate input to the processor pixel data of the image.

Regarding claim 10, Yokoyama discloses wherein the processor comprises the controller (also see *printed circuit board* in paragraph [0128]).

Regarding claim 11, Yokoyama discloses wherein the projection system further comprises a television tuner (see *liquid crystal projection television* in paragraph [0103]) coupled to the input interface.

Regarding claims 12, 13-15, 17, and 18, the “method of operation” in a “projection apparatus” is similarly met by the features and functions of the above-mentioned elements recited for the “projection system” of claims 1, 3, and 6-8.

Regarding claims 19 and 20, the “projection apparatus” is similarly met by the features and functions of the above-mentioned elements recited for the “projection system” of claims 1 and 3.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoyama et al. (U.S. Patent No. 2001/0013924) in view of Owen et al. (U.S. Patent Application Publication No. 2005/0152146).

Yokoyama teaches the claimed invention, including a fan (see 108 of FIGS. 28 and 29), except for “a cooling pipe and the controller controls a flow rate of the cooling pipe, varying an amount of fluid flow pass the solid state light source”.

Owen teaches providing a cooling pipe (see *heat pipes* in paragraph [0037], see *heat pipe* and *fluid tube* in paragraph [0044], see 114 in FIG. 4 and paragraph [0042]) and the controller controls a flow rate of the cooling pipe, varying an amount of fluid flow pass the solid state light source (the amount of fluid flow is considered to be varied when “controller” 36 or 145 turns on the *heat pipes*, *heat pipe*, *fluid tube*, or “pipe” 114, allowing the fluid to pass through the pipe and turns off the pipe, not allowing fluid to pass through the pipe).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the “active cooling arrangement” of the “projection

system" or "method of operation" in a "projection system" of the Yokoyama reference with a cooling pipe, like that of Owen, in order to facilitate thermal stability and heat dissipation of the "solid state light source".

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rochelle Blackman whose telephone number is (571) 272-2113. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



RB

**William Perkey**  
**Primary Examiner**